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UNITED STATES OF AMERICA.



A D D R E S S

DELIVERED AT THE

ANNUAL MEETING

OF THE

N. Y. STATE AGRICULTURAL SOCIETY,

ALBANY, FEBRUARY 13, 1867.

By JOHN STANTON GOULD, PRES'T.

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ADDRESS.

Gentlemen of the State Agricultural Society:

The period has now arrived when I am to lay down the cases and responsibilities of the presidency, and to render to you an account of my stewardship.

I do not know whether it is in compliance with law or with custom, that the President of the Society is expected to deliver an address on leaving the chair. But I can see that there is an inherent propriety, and I may even say there is a necessity that he should do so. No man can spend a year in the service of the Society, watching over all its manifold relations to the great interests of agriculture, without learning many things, which ought to be the common property of his successors. He finds many of the plans for the improvement of agriculture, which have been adopted by his predecessors, are well adapt-

ed in their practical working to accomplish the objects which their proposers had in view. Other plans fail to accomplish the intentions of their authors, and others, instead of promoting, actually prevent the advance of agricultural improvement. These observations should certainly be communicated to his successors in office, and there seems no time or place so well fitted for the transmission of this information as when he resigns the chair to his successor.

OBJECT OF THE ADDRESS.

It will then be my purpose, this evening, to point out briefly those parts of the machinery of the society which my experience has led me to believe are beneficent in their action, and those which can be usefully altered or improved.

NECESSITY FOR THE SOCIETY.

My convictions of the absolute necessity of such an organization as the New York State Agricultural Society, for the interest of the farmers of the State, have always been very strong; but strong as they were, they have been very greatly intensified by the practical inlook which I have been compelled to take of its relations to agriculture during the past year.

VALUATION OF FARMS, STOCK AND TOOLS.

I estimate, at the lowest valuation that I can possibly make, the value of the farms, live stock and agricultural implements in the State, at seven hundred and twenty-five millions of dollars; and if any one should estimate them at one thousand millions of dollars, he would probably be nearer to the mark than I am.

ANNUAL VALUE OF FARM PRODUCTS.

The annual value of the products of these farms cannot, as I think, fall short of one hundred and sixty-five millions of dollars.

PROFITS OF AGRICULTURE.

From the best information I can obtain from different counties in the State, I believe that we cannot assume a higher per centage of profit on the agricultural investment of the State than three per cent; very many of our most acute and observing farmers believe that the average profit of agriculture is only two per cent.

At the very highest estimate then, the annual profits of the farmers of New York fall short of twenty-two millions of dollars. The annual cost of the production of crops in New York is about \$144,000,000. Without very greatly increasing

this amount which represents taxes, insurance, wages, mechanics' and merchants' bills, the profits of the farmers ought to be at least doubled.

AVERAGE PRODUCTION, 1865.

The average production of wheat to the acre in the State of New York is 7.07 bushels of spring wheat, and 13.36 bushels of winter wheat; of rye, 10.17 bushels; of oats, 17.16 bushels; of barley, 16.27 bushels; of corn, 28.44 bushels; of potatoes, 98.86 bushels; of hay, 0.91 tons. That this rate of production is far below the actual capacity of the soil—that the cause of the failure is in the farmer himself—is made clear by the actual results obtained by our best cultivators.

GEO. GEDDES' AVERAGE PRODUCTION.

Hon. GEO. GEDDES, well known to this society as one of its ex-presidents, has kindly furnished me with the average crops for three years raised by his son, JAMES GEDDES, and six of his nearest neighbors. The crop of winter wheat was about 26 bushels; of oats, 50 bushels; of barley, 38.12 bushels; of corn, 45 bushels; of hay, 2 tons to the acre.

AVERAGE PRODUCTION, 1855.

Ten years ago the average yield of crops to the acre, in this State, was—of spring wheat,

10.46 bushels; of winter wheat, 11.74 bushels; of rye, 17.89 bushels; of oats, 20.01 bushels; of barley, 16.76 bushels; of corn, 21.02 bushels; of potatoes, 68.87 bushels; of hay, 0.96 tons.

These statements are well worthy of the most serious consideration of the society. They show that the average crops of the State are below those obtained by Mr. GEDDES and his neighbors, by more than one-half.

INCREASE OF VALUE OF CROPS.

If the average production of the State had been raised to the standard attained by Mr. GEDDES and his neighbors, 5,139,720 bushels of wheat would have been added to the supply of food, which, at \$1.50 a bushel, would amount in money value, to \$7,709,580. The increase in the crop of oats would be 18,221,334 bushels, the value of which, at 50 cents a bushel, is \$9,-110,007. It would add 4,131,625 bushels of barley which, at \$1.00 a bushel, would increase the annual income of its producers by the same number of dollars. The amount of corn would be increased 10,467,822 bushels, which, at 75 cents a bushel, amounts to \$7,850,866. The crop of hay would be increased 4,696,526 tons, which, at \$10.00 a ton, would be worth \$46,965,260.

In examining these statements, gentlemen, you will perceive that if the average production of the State should be raised to the measure of increase attained to by Mr. GEDDES and his neighbors, it would increase the annual value of our crops by the enormous sum of \$75,767,998!!

It must not be forgotten that this great addition to our revenues would accrue without any increase of the sum which we already pay for interest on the cost of the land ; for fences, for taxes, for insurances, for merchants' bills, and for tools and implements.

The extra cost of this increased revenue would be chiefly composed of manure and labor ; these items, in English calculations, are generally assumed at one-third of the gross expenses of the farm ; with us they would probably amount to one-half of the gross expenses, but to keep very far within bounds, let us assume that the cost of this augmentation of our crops is \$45,767,998 ; we then have left to us \$30,000,000 as clear gain ; we have not only doubled our profits, which we may spend for our own pleasure, but we still have \$8,000,000 left, which is sufficient to pay the whole of our State tax.

AVERAGE CROPS DIMINISHING.

By comparing our average production ten years ago with our present average, we find that with the exceptions of the items of wheat, corn and potatoes, we are actually raising less than we did in 1855. Our averages are diminishing rather than increasing.

Mr. GEDDES and his neighbors expressly assert that they are now, and have been for many years, increasing their annual production and their average net profits; and this is also true of a great many other farmers in different sections of the State.

The facts which I have stated show that the farmers of this State may be divided into two classes, viz.: those who study the laws of nature applicable to agriculture, and obey them; and those who, being ignorant of the laws, are unable to obey them.

THE MISSION OF THE SOCIETY.

It is the mission of the society to be the mediator between these two classes; it must learn from the educated in order to teach the uneducated farmer the true methods of successful and remunerative husbandry. It must convince the ignorant farmer that, in agriculture as well as in

religion, "wisdom is profitable to direct." It must draw this wisdom from the deep wells where it lies hidden, and scatter it broadcast until it lies within the reach of every husbandman. It must apply stimulants to the careless, restraints to the rash, and act in every way as the vicegerent of a beneficent Providence to the cultivators of the State.

FAIRS AND TRANSACTIONS.

The society has sought to fulfill its mission, from its first establishment down to the present day, through two distinct agencies. It has annually, by its fairs, brought before the farmers the choicest specimens of its flocks and herds, its best grains, roots and grasses, and its most advanced mechanical contrivances for giving aid to the operations of husbandry; and by the publication of its transactions it has sought to explain, clearly and intelligibly, the processes by which the successful results exhibited at its fairs were obtained.

In addition to these two methods which it has constantly and regularly pursued, it has, at different times and as occasion offered, adopted other methods of promoting the interests of the farmer.

SURVEYS OF COUNTIES.

It has procured accurate agricultural surveys of the county of Seneca, by Mr. DELAFIELD, of Onondaga, by Mr. GEDDES, of Essex, by Mr. WATSON, of Steuben, by Mr. DENNISTON, of Washington, by Dr. FITCH, of Madison, by Mr. EVANS, of Orange, and by Mr. DENNISON. It is fearlessly asserted that so large a body of exact agricultural information, respecting the counties referred to, was never brought together at so small a cost.

TRIAL OF PLOWS.

The society, in 1850, were desirous of ascertaining, by competent tests, which of the numerous plows, competing for public favor, was best adapted to the wants of the farmer. A careful and elaborate examination was made, under their direction, of all the plows presented, by a board of competent judges at Albany.

TRIAL OF MOWERS AND REAPERS.

In 1852, when the manufacture of mowers and reapers was in its infancy, the Society instituted a very thorough trial of all the machines then in use at Geneva. And again, in 1866, it instituted another trial of mowers and reapers at Auburn.

RESULTS OF PLOW TRIALS APPROVED.

The plows which received the approval of the Society, at the Albany trial, continued for many years to be the favorites of the farmers; and one of them, known as the *Michigan* plow, which was first brought into public notice at the trial, has continued to increase in public favor to the present day. I am happy to inform you that very thorough preparations have been made for another trial of plows in May of the present year.

The decisions, at the trial at Geneva, were also very fully ratified by the agricultural public. It is yet too early to ascertain whether the conclusions arrived at, during the Auburn trials, will equally commend themselves to the confidence of the farmers, but there cannot be a doubt that the very careful and elaborate experiments made there will throw a great deal of light upon the theory and practice of mowing and reaping by machinery.

T. C. PETERS' REPORT ON THE AGRICULTURAL RESOURCES
OF THE STATE.

In the year 1864 the society procured, from my immediate predecessor, ex-President T. C. PETERS, a very valuable report upon the agricultural resources of the State. For the first time,

the area of the State was divided into groups allied to each other by their adaptation to the production of similar crops, by climate and by geological structure; it abounds in facts not easily accessible elsewhere which are of the utmost importance to the student of the agricultural resources of the State.

SORGHUM COMMISSION.

In the year 1863, when the excitement respecting Sorghum sugar and syrup, and beet sugar, was exceedingly active in the western States, the society appointed a commissioner to visit those States for the purpose of acquiring all the information which could be obtained there, in order to ascertain whether it would be desirable to introduce the culture into this State. A report upon the subject was accordingly made, containing full and ample details, which was widely circulated through the State.

SALT EXPERIMENTS.

Various experiments have also been made under its auspices, to test the comparative value of our own and foreign salts, which resulted in destroying the prejudice which, for a long time, existed in the minds of our farmers against the

use of Onondaga salt for curing meats, and for the preservation of butter.

EPIZOOTICS—PLEUROPNEUMONIA.

The Society has carefully watched over all the epizootics which have made their appearance during its corporate existence. The pleuropneumonia was promptly investigated on its first appearance, and the most approved modes of guarding against its ravages, were widely disseminated through the State; in consequence of these precautions, the losses were confined within very narrow limits.

RINDERPEST.

During the past year the Society has devoted much of its attention to the study of the best method of protecting our cattle owners from the rinderpest which has destroyed so many cattle in the various countries of Europe. It perfected a law, having this object in view, which was passed by the legislature. Under its provisions a commission was appointed, composed of some of our most experienced members, in whose judgment we place the fullest confidence; and we have reason to believe that the measures they have adopted are such, that if the disease should

unfortunately break out here, it will be confined to very narrow limits.

ABORTION OF COWS.

We have also devoted much time and labor, during the past year, to perfecting a plan for the thorough investigation of the causes of, and remedies for the abortion among cows now so fearfully prevalent in our dairy districts. We have sought the counsel of some of the most eminent physiologists in the country, and have succeeded in perfecting a plan for the thorough investigation of all the abstruse and occult questions which have hitherto proved insoluble by unprofessional observers. The accomplishment of this plan involves the expenditure of more money than the society can command, and we have, therefore, appealed to the Legislature to supply the deficiency from the State Treasury. If that body responds favorably to our requests, the investigation will be entered upon immediately.

FLAX COTTON.

In the year 1861 a permanent committee was appointed, whose duty it was to foster the growth of flax, to supplement the growing deficiency of cotton, and also to encourage the invention of

methods by which the fibre could be spun on ordinary cotton machinery. This committee has continued its labors from that time until the present. Although no process has yet been discovered by which flax has been thoroughly cottonized without great injury to the fibre, yet cotton machinery, by a very slight alteration, has been made to spin the fibre prepared by purely mechanical processes, with very great success. We have no doubt that this process will very greatly increase the cultivation of the flax crop in the State, and render it more remunerative.

The entomology of the State has been very successfully studied, under its auspices, by Dr. FITCH, whose annual reports have been of great value, and are highly prized by the farmers of other States, and by the scientific and practical men of Europe. When Dr. FITCH shall have arranged the specimens, in his possession, in our museum, where all the farmers of the State can obtain access to them, the economical value of his labors will be greatly increased.

From this rapid sketch of the methods by which the society has hitherto sought to benefit agriculture, I now pass on to mention some of

the new enterprises upon which I deem it proper that the society should embark.

LAW BUREAU.

It seems to me desirable that a commission should be appointed, charged with the duty of examining and revising all the laws of this State affecting the interests of agriculture.

Doubtless, many of the laws at present in force bear hardly on the interests of the husbandman, and might be greatly improved, with the hearty assent of the legislature and the people.

Among these may be mentioned the laws relating to road and division fences,—to estrays, to trespass, to the tenure of land and the right of re-entry; to the protection of sheep from the ravages of dogs. The reciprocal rights and duties of employers and farm laborers; the relations of incoming and outgoing tenants; the rights of commons and of piscary; the laying out and repairing of public and private roads; the planting of trees, and the provision of watering places along the highway. For securing more accurate surveys of farm lands, and to facilitate the straightening of lines between co-terminous proprietors.

No one can doubt that our laws, in relation to all these matters, are, in many respects, very

defective, or that a body of intelligent men thoroughly conversant with the wants of agriculture, considering them individually, and in their relations with each other, could devise many important ameliorations of their provisions which would enure greatly to the profit of the farmer.

EXAMPLE—ROAD LAWS.

The limits of this address will not permit me to point out, in detail, all the mistakes, anomalies and injurious workings of our existing laws, but I may, perhaps, be pardoned if I cite our present road laws as an example of the deficiency, and even of the absurdity of our present system.

Whoever has had to travel over the common roads of our State, will have had too much occasion to see that they have been laid out without any plan or system whatever. The traveler is perpetually compelled to clamber over high hills which might be avoided by going round them; to go by a tortuous path, when a straight one was easily attainable; to wade through a soft and muddy road bed, when hard ground was within a stone's throw, and to grind through deep ruts, when they might have been avoided altogether.

He is thus compelled to make his transit, from one point to another, through a much longer

route, with a greater expenditure of animal power, a greater loss of time, and with more wear and tear of wagon and harness, than would be required, if the roads were located and repaired, as they easily might be, without increasing the tax now annually expended upon them.

TONNAGE TRANSPORTED ON COMMON ROADS.

I estimate the annual transportation, over the common roads of this State, of agricultural products by farmers, as follows:

Hay and cereal grains,.....	5,211,728	Tons.
Root crops,.....	169,708	"
Milk and its products,.....	296,864	"
Meat,.....	147,601	"
Apples and cider,.....	852,955	"
Wool,.....	5,000	"
Hops,	4,000	"
Flax, ...	2,500	"
Making an aggregate of	6,690,356	"

transported over an average distance of five miles.

OTHER COMMODITIES TO BE TRANSPORTED.

I have omitted many articles which a farmer is compelled to transport, because I have no accessible data upon which to found a calculation. Large quantities of straw are transported to the paper mills, and to our large cities, for bedding and litter. The amount of plaster, lime and other manures used by farmers, is very great.

The amount of lumber brought to tide-water by our canals, and which must have passed over our common roads to them and from them, amounts to one and a half millions of tons annually. The products of our orchards, besides apples, and of our vineyards, is very considerable. The fruits of our market gardens and field products, other than those above enumerated, such as onions, tobacco, broom corn, millett, peas, beans, &c., sum up in the aggregate to very large proportions. The small fruits, such as cherries, currants, raspberries, strawberries, require an amount of tonnage for their transportation to market which would astonish those who have never directed their attention to its magnitude.

In considering all these additions to the amount of tonnage above estimated, I think I shall not incur the charge of exaggeration when I assume that ten millions of tons are annually hauled by the farmers of this State over our common roads.

GAIN FROM IMPROVED LEGISLATION.

If the expenses of drawing this tonnage are diminished, by the improvement in our laws, twenty cents a ton, it will add two millions of dollars annually to the profits of agriculture.

There is not only no general system of road making in the State, but there is none in the country, nor even in the town; the roads are divided into short districts, each district being directed by a path master, who regulates all things according to the counsel of his own will, and without the slightest attention to the relations of his district with any other. After the corn is hoed he summons the persons assessed in his district to work on the highway; they generally plow the ditch by the road side, and scrape up the soft mud and the weeds which have collected there, into the middle of the road, and this is facetiously called *repairing* it. For this miserable and useless work, the farmers of the State pay an enormous sum annually, either in cash or labor.

Now, if in each county a practical surveyor or engineer was appointed, who should lay out the lines of communication between different points by the shortest lines and the most feasable routes; who should apply the labor of the county with a systematic aim to level the hills and fill up the valleys, and improve the road bed; every year would show an obvious and welcome improvement; the most hills would be lowered, the most

crooked places would be straighter, the most slushy places would be harder ; and before many years had passed away, the present expense of teaming would be reduced one-half of its present amount.

Of course the county engineer would select his own district assistants who would direct the taxable labor of the county, under his direction, and be responsible to him. Thus, ignorance would be replaced by knowledge, disorder by a well regulated system, and wastefulness by economy, which would soon cause the crooked places to become straight, and the rough places to become smooth. It would probably be necessary to provide by law, that all neck yokes of heavy wagons should be lengthened so as to make the horses walk in a direct line with the wheels, so as to prevent the formation of ruts.

It would be easy to select the members of this society, who are most familiar with the laws relative to agriculture, and who, from their previous studies and acceptations, would be most likely to suggest improvements on them. These might be formed into a bureau, under the presidency of one of the vice-presidents; and to the oversight of this board all matters relating to

the laws affecting agriculture might safely and usefully be committed.

NECESSITY FOR MORE RELIABLE EXPERIMENTS.

We have had theories of agriculture without end, profounded for our consideration ; innumerable guesses have been hazarded upon every conceivable topic ; inconclusive experiments, which no man can number, have been made, and yet, to our shame be it spoken, there is scarcely a single question which has been mooted in American agriculture, that can be said to be settled on the sure basis of reliable experiments.

Many of our indigenous grasses have never been analyzed. There is a hopeless discrepancy between the analysis which have been made in Europe and America. Thus, by the analysis of Mr. WAY, in England, the ash of timothy gives 11 per cent. of the phosphates and 24 per cent. of potash. According to the analysis of the same grass, made by Mr. SALESBURY, under the direction of Prof. EMMONS, at Albany, it contains 16 per ct. of the phosphates and 30 per cent. of potash.

COMPARATIVE VALUES OF FOODS—ACTUAL TRIALS AT THE MANGER.

The theoretical value assigned by BOUSSINGAULT to rye straw, in comparison with English hay,

was 479 lbs. That is, 479 lbs. was equivalent to 100 lbs. of English hay. FRESENIUS, as the result of his analysis, gave 527 lbs. of straw as equivalent to 100 lbs. of hay. BOUSSINGAULT makes 319 lbs. of potatoes, 70 lbs. of India corn, and 60 lbs. of oats, each equivalent, in nutritive principles, to 100 lbs. of hay. FRESENIUS makes 330 lbs. of potatoes and 58 lbs. of oats equivalent to 100 lbs. of hay. If we compare the equivalent values of different species of food, deduced from actual feeding of animals, we find the confusion even worse confounded. BLOCK makes 216 lbs. of potatoes equivalent to 100 lbs. of hay; PETRI, 200 lbs.; MEYER, 150 lbs. BLOCK found 39 lbs. of oats equivalent to 100 lbs. PETRI, 71 lbs.; THAER, 86 lbs.; PABET, 60 lbs.; SCHEVEITZER, $37\frac{1}{2}$ lbs. I have searched industriously for chemical or experimental researches in this country, with which to compare the discordant results of Europe, but I am compelled to confess that if such exist, I have been unable to find them.

Chemical analysis indicate that timothy has twice as much muscle making nutriment, and twice and a half as much fat making nutriment, as sweet scented vernal grass. It has 25 per

cent. more muscle making power than Kentucky blue grass, or than Fescue grass; but I cannot find that this has ever been verified experimentally either in Europe or America.

CORN.

We learn from the analysis of Mr. SALISBURY, that 100 lbs. of the Ohio Deut corn contains 8.58 lbs. of flesh forming principles, and 60.34 lbs. of fat and heat forming principles. While 100 lbs. of the small eight-rowed corn contains 13.80 lbs. of flesh forming, and 44 lbs. of fat and heat forming principles. Now, if such differences really exist in these varieties, farmers may make a great deal of money by knowing it. But they do not know it, or even suspect it; with them a bushel of one corn is worth a bushel of any other corn, just as much as one gold eagle is worth another; and yet we see if Mr. SALISBURY's analysis is reliable, 100 lbs. of the eight-rowed corn will lay 25 per cent. more muscle upon a hog or a bullock than the Ohio Deut.

There is not a single experiment upon record which has, for its object, the verification of this chemical indication by actual feeding. If the fact were once reliably proved, the knowledge

would be worth half a million dollars annually to the farmers of the State.

MANURES.

If a load of horse manure, a load of cow manure, and a load of hog manure, should be offered to a farmer, each at a specified price, he could not tell which would be the cheapest. There is not a farmer in the State that knows exactly what profit he can make upon a load of any kind of manure.

DR. VOELEKER'S EXPERIMENTS.

Dr. VOELEKER weighed a known quantity of manure, making a careful analysis of its composition; it was then spread out in the barn yard just as our farmers are accustomed to spread out their manure exposed to the weather. At the end of a year he weighed and analyzed it again. There was an absolute loss of weight, amounting to 42 per cent., and this loss consisted of the most valuable constituents of the manure. When first spread out, it contained 41 lbs. of soluble organic matter; at the conclusion of the experiment only 4 lbs. of soluble matter remained. This 41 lbs. contained, in the beginning, $3\frac{1}{4}$ lbs. of nitrogen which is the most precious portion of the manure, at the close of it only one-third of a

pound remained, showing an absolute loss of nine-tenths of the ammonia. This experiment has been for ten years before the farmers of Europe and America; not one of them, so far as I know, has ever thought of weighing the crops raised from equal areas of land, one of which was manured with recent and one with manure which had been long exposed to the weather; had they done so they would have learned conclusively whether they have been wasting their manure as much as Dr. VOELEKER says they have. If his statements are true, more than one-half of the fertilizing matters in this State are absolutely lost; a reformation, in this respect, would more than double our available manure, without perceptibly increasing the labor of teaming.

I have by no means exhausted my list of examples of losses sustained by farmers, in consequence of their ignorance, but I have, perhaps, said enough to convince them that they are, at present, grossly ignorant of the facts which lie at the very foundation of profitable and successful farming, and that this ignorance is not hopeless and necessary, but easily remediable if the proper methods are resorted to.

It seems to me that the society should, at once, deliberately, resolutely and persistently set itself to the task of replacing this ignorance by substantial, positive knowledge. We have many members who are interested in these investigations, and who are abundantly qualified to conduct them. Let such be organized into a Bureau of Experiment, under the presidency of one of the vice-presidents. They should then select a few of the most important questions for investigation, devise all necessary precautions to insure accuracy in the making and reporting the experiments, and secure their careful trial by members of the bureau and others who may be willing to participate in it; if possible, the trials should be made simultaneously in every county in the State. In this way, perfectly reliable knowledge might be acquired of all disputed questions in agriculture, in the course of a few years, and agriculture would be elevated to the rank of a science.

BREEDING.

It is because that there is no treatise upon the breeding of animals founded on experimental *data*, to be found in the English language, except that of Mr. GOODALE, of Maine. This work is a valuable addition to our literature, but the author, in

every chapter, complains of the want of reliable facts upon which to base his conclusions. Such knowledge is in existence, but as no reliable record has been made of it to the public, and those who desire to improve their animals have no trustworthy guides to aid them.

PROF. AGASSIZ.

Prof. AGASSIZ has recently informed me that he has experimented, for several years, with dogs, Guinea pigs and rabbits, and finds that the first male that copulates with a virgin female makes all her subsequent offspring with his own characteristics; he is anxious to know whether the same is true in the case of horses, cows, sheep and hogs. He does not know whether this law holds good in the case of the first *ineffective* copulation, and would be glad to be supplied with any facts, by competent observers, which will throw light upon this branch of the subject. He has also ascertained that a breed of animals is deteriorated by allowing the male, however perfect he may be, to serve too many females.

BUREAU OF REPRODUCTION.

A bureau should be organized in the same way as has been recommended, in previously men-

tioned cases, which should be charged with the duty of causing experiments to be made and published, which will throw light upon all the phenomena of reproduction.

Bureaus for veterinary medicine, entomology, sheep and wool, orchard and garden products, the testing and distribution of seeds, and for the investigation of any other subjects which may, from time to time, demand the special attention of the society.

BUREAU FOR CODIFICATION.

Another bureau should be formed, consisting of the President and the ex-presidents, whose duty it would be to digest and methodically arrange the reports of the special bureaus into a coherent body of agricultural science.

Hitherto the labors of the society have been performed by the officers; for all practical purposes the executive committee has been the society. The plan of organization that I propose changes all this; if it should be adopted, all the members will become workers; every man in it will be working under a well considered plan for the accomplishment of a specific and definite object. Should they do so, and bring to their task the same sagacity and zeal that they have

carried into other fields of enterprise, I do not doubt that they would accomplish results that would redound to their own honor, and prove a blessing to the world.

This plan would involve the expenditure of a much larger sum of money than the society has been accustomed to raise. The expenses of the officers who have attended all the meetings during the year, have not averaged less than one hundred dollars a year. I would not wish that this should be altered, but it seems to me right that when committees of the society travel in its service, their expenses should be paid. The presiding officers of the proposed bureau will necessarily have a large correspondence on behalf of the society, and the society ought to furnish the postage for it.

Many analysis would be needed, and some of the experiments that are needed would require the expenditure of money. It has never been the policy of the society to solicit much pecuniary aid from the State for its ordinary operations. I would not recommend that this policy should be changed; but it seems to me that all the needed funds could be raised without burthening any one unduly.

The number of members, by the payment of one dollar annually, does not much exceed one hundred, and many of these only become so for the purpose of exhibiting some article at the fair.

FINANCIAL IMPROVEMENT.

This statement shows that the farmers of the State as a body, while they richly share in all the benefits arising from the labors of the society, contribute nothing either of their labor or their money for its support. I do not mean to blame them for this; the necessity for it has never occurred to them; it has never clearly presented itself to their minds as a duty to be performed. There are between three and four hundred thousand owners of land in the State; if one in twenty of these should join the society and pay their annual dues, the revenue would be ample to supply its utmost needs. There are thirteen millions of acres under cultivation in the State; if we had had one member for each 400 acres, the revenue would be sufficient. There are over nine hundred towns in the State; if fifteen farmers in each town would become members, it would enable the society to accomplish all that it desires to do. Looking at the matter in any light, there seems no substantial difficulty in the

way of raising all the necessary funds for ordinary purposes without appealing to the legislature for assistance.

FAIRS.

My experience in the management of our annual fairs convinces me that the time has fully arrived when some important improvements should be introduced into their management.

THOROUGH-BREDS.

They owe much of their attractiveness to the exhibition of thorough bred animals; thousands of farmers leave their homes and business solely for the purpose of seeing them. If from any cause the owners of the animals should refuse to show them, the farmers of the State would lose one of the very best means of education, and the treasury of the society would be seriously depleted.

These owners of choice and valuable animals, it is well known, expend a great deal of money as well as labor and skill in bringing them to the high state of perfection in which they now are. If, through the ignorance, the carelessness, or the prejudices of judges, an inferior animal is assigned a prize over a superior one, we cannot wonder

that the owner of the latter should be deeply chagrined and mortified.

While great care is taken to procure competent committees, and while it is believed that the awards have been, in the main, wisely and justly made in all branches and departments of the show, it is to be regretted that they have not always been accompanied with the reasons upon which they were founded, that the unsuccessful competitors might feel satisfied that every means had been adopted to secure correct decisions.

The society has deliberately established a scale of points, which are printed on the judges' books, and they are directed to record their judgment upon each point of the scale; this has rarely been done. It has been alleged as an excuse for this, that the scale is faulty. I am unable to concur myself in this opinion; but if, on consideration, this view should be held, it will be eminently proper to amend it.

It has been alleged that it is too much trouble to impose upon the judges. I am sure that men can be found who will take this trouble, especially if their expenses are paid by the society; and in order to insure the result, I recommend that

hereafter the judges on thorough-bred stock shall have their expenses borne by the society.

GRADES.

There was nothing more truly instructive exhibited at the Saratoga fair, than Mr. CHAMBERLAIN's grade Merinos. The farmers saw before their own eyes a Silesian Merino buck of unrivaled beauty; the wool was fine, and well distributed over the carcass; the proportions exquisitely symmetrical, and having all the points well known to shepherds, approximating very closely to perfection. On the other hand, there was a common ewe such as could be purchased for four dollars; there was also a grade ewe, the offspring of these two animals, with a noble carcass and with very fine wool; the market value of the ewe being at least three times as great as that of her mother. There was also a descendant of this grade ewe by the same ram, with a carcass less in weight than its mother, but having greater symmetry of form and greater fineness of wool. Hundreds of farmers were at Saratoga who had been earnestly asking the question, how much they could afford to pay for a good ram? The question was answered before their own eyes,

and in language which could not deceive them. They saw the very thing itself, and they could answer their own question as well as Mr. CHAMBERLAIN, or any other breeder in the world.

There were some grade cattle and hogs upon the ground which were very instructive, but less so than they would have been if their parents had been shown in connection with them.

I would earnestly recommend to the society to make the most earnest and systematic efforts to bring out grades of all kinds at our ensuing fairs in connection with their parents. We should thus afford to the farmers of the State an opportunity of seeing the effect of breeding our common native ewes, cows and sows with the best thorough-bred Durhams, Devons, Ayrshires and Alderneys, with the best Southdowns, Leceister-shires, Merinos, &c., and with the best Cheshire, Essex, Yorkshires and Berkshires. If it could be announced in the show bills that such an exhibition would be given at our next fair, I have no doubt that the receipts would be fully doubled in consequence.

FAT CATTLE AND SHEEP.

I have observed, with great regret, that the number of fat cattle and sheep are annually

diminishing at our fairs. I recommend that the attention of the society be given to find a remedy for this difficulty.

We are deficient in the art of fattening cattle. We fall below our brethren in England in this respect, as is plainly shown by a comparison of the shows at Smithfield, and by the Royal Agricultural Society with our own. Our inferiority is also manifest by a comparison of the meats exposed for sale in the markets of Great Britain with our own. It will never do for the farmers of New York to be inferior in anything; they should be contented with no position short of the highest. We should, therefore, encourage the exhibition of well fatted cattle by liberal premiums; and the details, including the cost of the fattening, should be printed on large cards, on legible type, so that the spectators may receive the full benefit of the exhibition.

AGRICULTURAL IMPLEMENTS.

The display of agricultural implements at Saratoga was never equaled before. I do not believe that the world could have surpassed it in really useful machines. The mechanics of our State may well be proud of their unrivaled exhibition; and the farmers are unfeignedly grateful

for the contributions by which their genius and skill have alleviated their labors and smoothed their pathway to success.

I think these mechanical displays should be cherished by every means in our power; but I am reluctantly compelled to express the opinion that it will, hereafter, be unwise to grant premiums in medals, money or diplomas, to any machines which have not been thoroughly tried in the presence of the judges. Such articles as cannot be tried may be noticed by the judges, described and commended if they deem it necessary, but every prize awarded should be earned by thorough and satisfactory trials.

Much injury has been done heretofore to the interests of meritorious inventors and makers of agricultural machinery, by the careless way in which the prizes and diplomas of the society have been awarded by judges, without making adequate tests of their value.

The diplomas of the society should always be conclusive evidence of merit, and I see no way of avoiding abuses without the adoption of the rule I have recommended.

Mr. HENRY WATERMAN, at the request of the Vice-President in charge of the department, and

with my entire approval, acted as a professional adviser to all the judges in the mechanical department; his services were found to be so valuable that the executive committee appointed him permanently the consulting engineer of the society. He will attend all the fairs and give counsel and advice to all the judges charged with the examination of any matters involving mechanical contrivances. It is worthy of consideration, whether it would not be advisable to make him an actual member of all these boards of judges.

The Vice-Presidents each took charge of one of the classes this year; the system was found to work admirably, and gave entire satisfaction in all respects. I would recommend that in future the Vice-Presidents be assigned to the several classes, at the first meeting after the elections, so as to give them time to form their plans of management before the fair. I would also recommend that the names of all persons nominated as judges, be referred to the Vice-President in charge of the class for consideration, before they are finally appointed.

I cannot close this address without expressing my most grateful and heartfelt thanks to my excellent colleagues, for the generous support

which they have given me throughout my whole term of office; wise in counsel and prompt in action, they have lightened my responsibilities and alleviated my cares.

Every retiring President has had occasion to acknowledge the weight of his obligations to our venerable Secretary; mine have not been less than theirs; his knowledge and experience have cast a clear and steady light over the darkness that has environed my path. May he long survive to enlighten us by his counsels and cheer us with his presence.

It now only remains for me to introduce to you my distinguished successor, Gen. M. R. PATRICK, who, to a thorough knowledge of the usages and policy of the society, adds the most patriotic services in the field, and is abundantly qualified to discharge duties that devolve upon him in a manner which will be honorable to himself and conducive to the best interests of the society.

GENERAL PATRICK'S REMARKS.

Gen. PATRICK commenced by alluding to the long line of illustrious names that had occupied the presidency, and his unworthiness to fill this position. He deeply appreciated the high honor which had been conferred upon him, and pledged himself to work faithfully in promoting the welfare and best interests of the society. He said that the prosperity of the society depended upon its working members; he should co-operate with them in carrying out the great and worthy objects which had been inaugurated. He paid a high compliment to the retiring President for his indefatigable labors in behalf of the Society during the past year, and gave a just and eloquent tribute to the venerable Secretary, Col. JOHNSON, who had watched for so many years over the interests of the society, and through whose guidance and counsel the society had been made worthy of the Empire State. He trusted that many years would be spared him yet in the labors of the society. Gen. PATRICK's address was earnest and eloquent, and, though brief, was exceedingly appropriate to the occasion.



APPENDIX.

The following letter, written, at my request, by Mr. GEDDES, conveys so much valuable information, is so good an example of the true mode of obtaining similar information, that I have sought and obtained his permission to publish it :

FAIRMOUNT, Onondaga Co., N. Y., }
January 7th, 1867. }

Hon. JOHN STANTON GOULD:

My Dear Sir — Your letter, requesting me to give you some account of crops raised here, has been received.

In order to enable me to reply to your inquiries in a satisfactory manner, I called eight of our farmers the other evening to my house, and we had a full consultation ; the general results of which I will give you. Premising that these eight men own and cultivate farms that join each other, and that extend along the road from a mile west of my house to a mile and a half east of it. Six of the number were able to state the results of their farming, with satisfactory certainty, for the past three (3) years; and three of them could state, with absolute accuracy, their crops for that time. Beyond the three years it was thought not safe to go, as too much would have to be trusted to memory to make it safe for me to depend upon; but could the facts have been accurately determined for five or six years, the results would have been at least as favorable as those given.

Wheat, our leading crop, was found to have averaged, for the three years, a little more than twenty-six bushels to the acre. During the three years it appeared that only nine (9) acres of wheat had been raised by the persons present on summer fallow, and thirty-six (36) on sod land once plowed; all the re-

mainder had been raised on barley and oat stubble. The three gentlemen that could speak from the book, gave, for the average of their crops, 25.45 bushels to the acre. I asked all present, how many more bushels should be expected from a summer fallow than from stubble land (I mean land that had barley or oats taken off it the same year the wheat was sown); the *average* opinion was, the summer fallow should give from 8 to 10 more bushels to the acre, though some of the party said no more; but 8 to 10 bushels is about the difference.

Barley—The average was 38.12 bushels per acre.

Oats—The average was agreed to be about 50 bushels.

Corn—In consequence of the injury done this crop by grubs and other insects, for some years past, we have been driven to plant our corn on land not in the best condition to produce a large crop. A two or three year old clover sod would give the food for a large crop of corn; but three times in four such a sod would have so many grubs in it that half or more of the crop would be destroyed or very much injured by them. So we must put wheat or barley or oats on the sod land for one crop, and then corn. Or, we must plow for corn a clover sod of *one* year's standing. This is a good plan in one respect. Less labor is necessary to cultivate the corn than where a crop has been taken off the sod previous to the corn. But this plowing up of a clover sod only one year old is bad, as the roots have not, in so short a time, done as much in filling the soil as they should, before being killed by the plow. One of our number has a field containing 33 acres, that was heavily seeded with timothy and clover, and has now been mowed for four years. Next season, but for grubs, he would put his corn in this land; but as things are, it will go into barley and oats, to be followed by wheat the same year.

These remarks will show you why our council of farmers put the average of corn at from 40 to 45 bushels, saying, at the same time, that before the grubs troubled us, the average was *fully fifty* bushels to the acre.

Potatoes we only raise for home consumption, perhaps a few to sell, as the crop has suffered so much from rot in the past, that we cannot calculate on saving more than a hundred bushels to the acre.

Hay — We insist that our hay crops will weigh fully two tons per acre, weighed in the winter ; but as we feed out nearly all we raise, we do not *know* but *guess* about this crop. But we do get fully three (3) large loads from every acre we cut.

Pasture — You did not ask about this ; but we farmers talked the matter over, spending a long time on the subject and making many figures. We took the land that each one gave to pasture, and reduced all the stock to the equivalent of cows. The result was that about three (3) acres were set apart for the use of four (4) cows as pasture land. To support so many animals we must have newly seeded land. Old pastures would come far short of this calculation in the *quantity* of feed they would produce. We do not turn on our pastures in the spring until they are well started, and soon after our wheat is cut we have the benefit of the feed that grows on the stubble. This feed is considerable ; for timothy, at the rate of eight (8) quarts to the acre, being sown with the wheat, and eight (8) quarts of clover seed in the following spring, with a dressing of plaster of Paris, in an ordinary season, will give much good feed in the fall that had better be moderately pastured than allowed to fall down and, in many cases, kill the plant during the winter by smothering it.

Clover Seed — Having taken off a crop of hay as near the first day of July as may be, and then sowing two bushels of plaster to the acre, we get a crop of clover seed, that the council agreed averaged three (3) bushels to the acre. If the season should be poor for pasture, we should turn our cattle on this second growth of the meadows, and thus have no crop of clover seed. So you see our clover seed crop is somewhat uncertain of being cut, for it sometimes is necessary to take it for pasture.

I believe I have said more than you asked for, but I am inclined to go on yet a little. Fertility of the soil, is it less or more than it was twenty years ago? We talked this matter over fully, and each man gave his views. All agreed that our farms produced much more now than they did twenty years ago. No one put the increase at less than fifteen per cent. ; two at twenty-five, three at twenty, and the average was a fraction less than twenty per cent. The discussion then ran particularly on the wheat crop, and all agreed that twenty years

ago when we summer fallowed, plowing three times and harrowed as many, that we were then satisfied with twenty (20) bushels to the acre. Now, on stubble land, we have, for a period of some years, averaged from 25 to 26 bushels to the acre. This is an increase in bushels of more than twenty-five per cent. without taking into the account that, by summer fallowing now, we could add to this considerably. But summer fallowing is too costly a process unless weeds are so abundant that it has become necessary to exterminate them. Just the same amount of cultivation that is required for a summer fallow will give us a crop of barley and a crop of wheat. The addition to the cost is the seed barley and harvesting that crop. So summer fallowing is rarely resorted to here.

I think the grass and hay crop has increased more than the wheat. The corn, for reasons before given, has diminished. To sum up the matter, we agreed that the increase was not less than twenty per cent., probably more.

The question was then asked: To what is this improvement due? The answer was: Clover, plaster, sheep and thorough cultivation. Here ended the conference.

I regret that I did not ask these men what proportion of their farms ever had barn yard manure put on them. I did not think of this; but I have no hesitation in saying that they would have answered, less than one-half, perhaps less than one-third. Barn yard manure, in *great quantities*, is made by each of these men, but it is not drawn far from the barns, unless to be put on some hill top or side, or some other place that is not as productive as the remainder of the field. The lands that do get the barn yard manure, are more severely cropped than those that do not get it. The back fields are pastured most. Clover plastered, is the great fertilizer. A few weeks since one of the participants in our council brought me a handful of clover roots that he had taken from some sod land he was then plowing. Some of these roots were three (3) feet long. They had been pulled up by the plow, and so left that they could be readily gathered by hand. Of course, but a small proportion of the roots are pulled up from the depth of three feet; most of them are cut off by the plow; but you will probably be surprised, as I was, that any should be pulled from such a depth.

I meant to have put these roots in the agricultural rooms in Albany, but carelessly I allowed them to become so dry they broke up when I tried to put them in a bundle. Most of the land hereabouts has been plowed as deep as 8 or 9 inches at some times ; and it is hardly necessary for me to say, cultivation is as perfect here as in any district I am acquainted with.

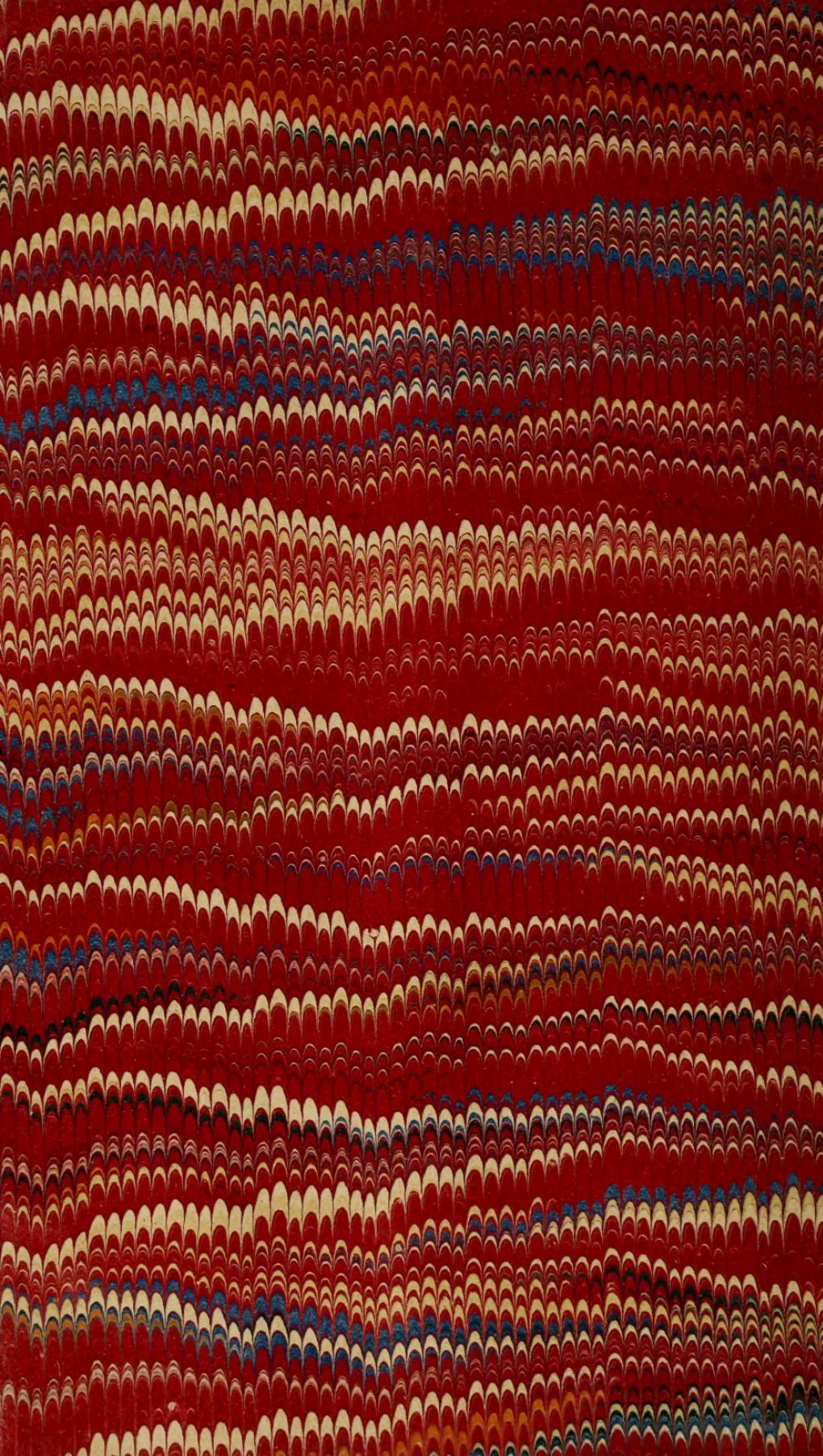
I have written for your information, not to appear before the public, still with the utmost confidence that only the truth has been stated, and as nearly as it can be arrived at by the method adopted ; and though the results are perhaps nothing extraordinary, yet they have been quite satisfactory to our farmers, and are such, that I am quite sure they are above any average that can be reached in the State generally, by our system of farming, or by any other, without the use of manures that would cost too much. Our soil is a good one, and it has made good farmers ; and these farmers have, in turn, improved the soil.

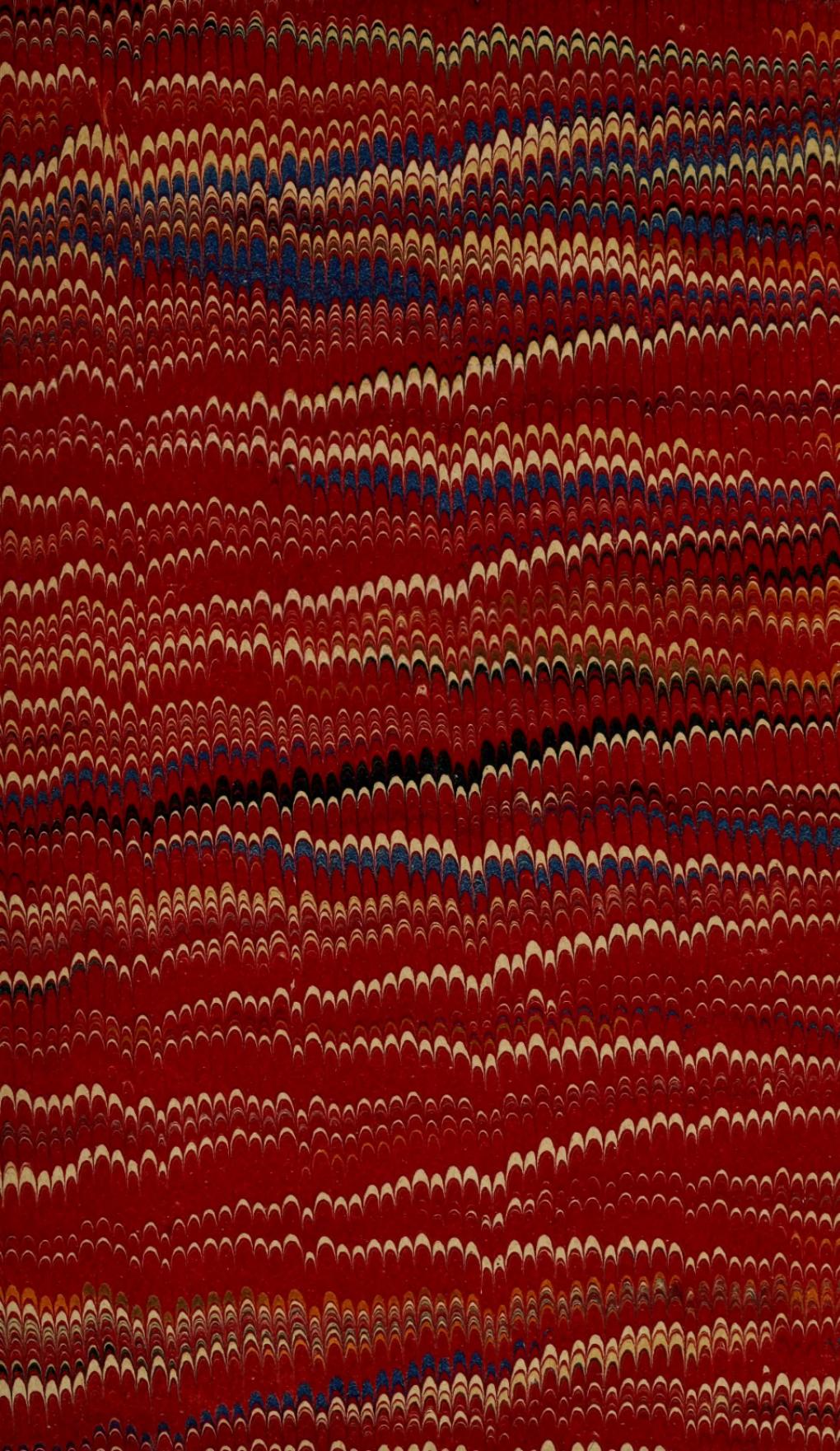
The land about Auburn where, last summer, you sweltered in the grain and hay fields trying reapers and mowers, is as good as ours, and the crops you saw there were as good as ours. But you must not forget that but a small part of the State can compare with the true grain soils of the salt group of rocks, and with the belt along the southerly line of this group that has been covered with the drift made up of ground and disintegrated salt rock. The farm southwest of Auburn, where I saw you trying the mowers, had on it the upper measures of the lime rocks, and near the barn where we lunched, the black rocks of the Marcellus shales appeared. This farm and the land about it is covered with drift from the salt group that outcrops some miles to the north. I call your attention to these geological considerations, that you may the better understand what I have said.

Respectfully yours,

GEORGE GEDDES.







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